

Nat'l Bee-Keepers' Convention at Los Angeles, Aug. 18-20

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CHICAGO, ILL., APRIL 30, 1903.

No. 18.

WEEKLY

The Foot-Path to Peace.

To be glad of life, because it gives you the chance to live and to work and to play and to look up at the stars; to be satisfied with your possessions, but not contented with yourself until you have made the best of them; to despise nothing in the world except falsehood and meanness, and to fear nothing except cowardice; to be governed by your admirations rather than by your disgusts; to covet nothing that is your neighbor's, except his kindness of heart and gentleness of manners; to think seldom of your enemies, often of your friends, and every day of Christ; and to spend as much time as you can with body and with spirit, in God's out-of-doors—these are little guide-posts on the foot-path to peace.

—Henry Van Dyke, D.D.



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GEORGE W. YORK.

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DR. C. C. MILLER, E. E. HASTY, EMMA M. WILSON

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(Patent Applied for.)

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wire staples driven into the inside of each end-bar, slide into slots cut in the ends of the cell-bars, and hold them in position.

The process of transferring larvae to the cells, getting the cells built, etc., have all been described in the books and journals, and need not be repeated here. When the cells are sealed they may be picked off the bar (still attached to the gun-wads); and right here is where the special features of the Stanley process steps in. Each cell, as it is removed, is slipped into a little cylindrical cage, made of queen-excluding zinc, the cage being about two inches long, and of such a diameter that the gun-wad fits snugly, thus holding the cell in place and stopping up the end of the cage. The other end of the cage is plugged up with a gun-wad. Long rows of these cages, filled with sealed cells, are placed between two wooden strips that fit in between the end-bars of a Langstroth frame are held in position by wire staples that fit into slots cut in the ends of the strips. To hold the cages in their places, holes, a trifle larger than the diameter of the cage, are bored, at proper intervals, through the upper strip, thus allowing the

cages to be slipped down through the upper bar, until their lower ends rest in corresponding holes bored part way through the lower bar.

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ESTABLISHED IN 1861 AMERICAN THE OLDEST BEE-PAPER IN AMERICA BEE JOURNAL

43d YEAR.

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* Editorial Comments. *

General Manager N. E. France, of Platteville, Wis., wishes us to say that he sent to each paid-up for 1903 member of the National Bee-Keepers' Association, one copy of "Bees and Horticulture," one on legal rights of bee-keepers, and a sheet of 25 questions to be answered and returned to him; and to new members also a pin badge. Since then there have been two bags of mail containing a lot of the above lost in a train wreck, so if any paid-up member has not received his package, and will notify Mr. France, he will mail another.

How to Treat a Balled Queen.—At this time of the year the novice will sometimes find upon opening a hive that the queen is balled, although she has been in the hive for a year. He is puzzled to know why she is balled, and still more troubled to know what he shall do. The best thing he can do is to do nothing. The bees have balled their queen because disturbed by the opening of the hive—possibly they are balling her to protect her—and if the hive is immediately closed there is little danger that any harm will come to the queen.

But it is another matter when you find a stranger-queen balled. The probability is that the balling will continue till the queen is dead, and your business is to get her out of the ball. Two things *don't* do: Don't try to pull the ball apart; and don't blow *hot* smoke upon the ball. Either of these things will generally mean immediate death to the queen. You may blow cold smoke upon the ball, holding the smoker at a good distance, and at first it seems to have no effect; but keep steadily blowing for some time, and gradually the bees will loosen their hold and leave the ball, until the queen is left alone. Possibly the better way is to drop the ball into water; very soon each bee will be trying to save itself.

Establishing Distant Out-Apiaries.—The usual reason for establishing out-apiaries is that without them the home-field will be overstocked, and the nearer home the better so long as there is no overstocking, unless a better field can be reached by going to a greater distance. Of late there seems a tendency to favor the establishment of out-apiaries at great distances—a hundred miles or so from home—even when the field nearer home is not overstocked. It frequently happens that a certain location will give a fine harvest when a second location at a distance yields nothing, although the pasturage is the same in each, climatic differences accounting for the difference in the yield. Another year the second field may be the paying one while the bees are starving in the first. If apiaries be established in both places, one or the other will be likely to have its dish right side up, and so if apiaries be established at a sufficient distance apart, and at a sufficient number of points, there will be little danger of a total failure in any given year.

Possibly this establishment of apiaries at great distances may be a wise thing, but before acting upon it the question should be carefully considered from all sides. Of course, it will cost much more to run apiaries at greater distances, but if the total harvest be sufficiently increased that will overbalance the cost. Suppose we have a home-apiary and two out-apiaries, and suppose a field 50 miles north and another 50 miles south, each exactly like the home field, and that every third year there is a total failure in each field. The first year

the failure is in the north, the second in the south, and the third at home. Each apiary in a good year yields 10,000 pounds.

Now, suppose the three apiaries are planted in the home field, say five miles apart. The first year will give 30,000 pounds of honey, the second the same amount, and there will be nothing the third year—altogether 60,000 pounds in the three years. Suppose, again, that one of the out-apiaries is planted in the field 50 miles north and the other 50 miles south. The first year is a failure at the north, but the other two apiaries give 20,000 pounds. The second year gives 20,000 pounds from the north and home apiary, and the third year gives 20,000 pounds from the north and south apiaries—no total failure in any one year, but—we have no more in the three years by one plan than we do by the other, just the 60,000 in the three years by either plan.

Before deciding, the practical question is this: Will the advantage of having the crop equally distributed over each year without getting any greater total in the three years be sufficiently great to balance the greater inconvenience and expense of the greater distances?

Statistics of Bees, Honey, and Beeswax, in the Twelfth United States Census Reports, are as follows: 4,109,626 colonies of bees; with a value of \$10,186,516. The total production of honey in 1900 was 61,196,160 lbs.; of beeswax, 1,765,315 lbs., which, together, represented a value of \$6,664,904. A grand total of \$16,851,420.

Bee-keeping isn't quite so small an affair as some people might suppose.

And it is increasing every year.

The Arthur C. Miller Hive-Cover.—Within the past few years—indeed, within the past year or two—there has been unusual interest in the matter of improvement in hive-covers. Several new ones have been listed by manufacturers, and individual bee-keepers have done no little in discussing what constitutes a good cover, and in experimenting with regard to the matter. Among others, Arthur C. Miller, of Rhode Island, has been thinking to some purpose, and writes:

I have just made 25 new hive-covers. The top consists of four or more narrow boards $\frac{1}{4}$ inch thick, tongued and grooved together. These fit into end-pieces or cleats $1\frac{1}{2}$ wide and grooved. Before the grooved pieces are put on four or five thicknesses of newspaper are laid on top, and a piece of thin cotton cloth stretched over all, and held by three or four tacks. The paper goes only to the cleats, but the cloth goes over the ends of the top boards. After the cleats are on they are nailed from top to bottom, firmly fastening the upper and lower parts together and holding the boards firmly.

Next, the cloth is drawn tight at the edges, held by a few tacks and a cleat nailed on. This makes a pretty stiff cover, which, owing to the narrowness of the boards, can not "twist" much.

The next step is to give the cloth a good coat of *thick* flour-paste, and it is allowed to dry a day, when it receives a coat of thick paint, and later a second coat. This paste business is a trunk-maker's trick, and a good one. The cloth so sized shrinks tight and takes less paint. The paper makes a fine non-conductor, ahead of an air-space, and also keeps the cloth free from the boards, so that no shrinking or swelling wrinkles and cracks it.

The paper part and the paste part I have tried and know about. The only part I am not sure about is the "twist" element of the narrow boards. The covers cost me here (without paint) 11 cents.

ARTHUR C. MILLER.

Whether those 25 covers come up to expectations can perhaps be told only after they have been in use five, ten, or more years, but there certainly seem to be several good points worth considering in them.

The use of paste means an important saving of paint. Newspapers themselves have been considered good non-conductors, and several thicknesses of them with the air enclosed between them may, quite possibly, be equivalent to the $\frac{3}{4}$ air-space in double covers.

Certainly the expense will be less. With half-inch lumber securely fastened at the ends there can be no warping.

Twisting is another matter. A large proportion of lumber will twist with sufficient age. Cast-iron cleats holding the ends rigidly will not prevent twisting. But to have the greatest amount of twisting in a hive-cover, it must be made of a single board. Suppose a cover made of a single board twists to that extent that at one corner there is a crack of a quarter of an inch. Now make a cover of two boards instead of a single board, and let one of them be of the aforementioned twisting board. The crack at the corner will now be only an eighth of an inch, and as it will also be decreased in length it will not let in half as much air as the first crack. The crack will be still further diminished by the fact that the cleat fastened to the other board will have a restraining influence.

When the cover is made up of four or more narrow boards cleated together, the chance for twisting is reduced to a minimum. Of course, if it should happen that the four boards were of the same relative twist as if made of a single board, the result would be precisely the same as if the single twisting board were used; but a little figuring will show that the chance of such a combination is one in several hundred.

Formalin Gas as a Cure for Foul Brood is the title of a pamphlet published by C. H. W. Weber. Mr. Weber is very positive that by means of formalin we can be saved the necessity of destroying frames and combs, and full instructions are given as to the use of the drug, with illustrations of the box and generator used. Price of pamphlet, 25 cents. It can be ordered of this office.

Convention Proceedings.

Chicago-Northwestern Convention.

Report of the Chicago-Northwestern Bee-Keepers' Convention, held in Chicago, Dec. 3 and 4, 1902.

BY OUR OWN SHORTHAND REPORTER.

(Continued from page 262.)

PICKLED BROOD—BLACK BROOD—FOUL BROOD.

A Member—If pickled brood is left in the cell what would be the condition?

Mr. France—Pickled brood is entirely different; it never gets this ribbed and backbone appearance, flattened down across the sides of the wall; it seems to hold a roundness, and will turn up, if you please, very much like foul brood; they are very hard; you may shake the comb and they will rattle; they are loose; if you will take a pair of tweezers and press one of those it will come out readily; not so, however, with black brood; I had some samples of black brood, and, to my surprise, I was taking such good care of them they were beginning to mold a little in transit, so I put it in the stove to avoid all danger of getting it in my apiary. The one question I want to bring up now is, How does it look? Is there a question on that point?

A Member—In pickled or black brood won't the cappings be sunken and broken the same as foul brood?

Mr. France—There is a difference in them; with old foul brood these sunken cappings frequently have a tendency to be a little bit darker, although you would have to have your eye trained to notice the comparative difference; usually pickled brood has not a great deal of capping on it.

A Member—How long does it take before those cappings will shrink?

Mr. France—About eight days; about the same time the bees would cap it over naturally. As soon as they get it capped over it begins to shrink, and very soon thereafter there will be broken holes, quite often to the side of the center.

Mr. Clarke—When they are perforated that way is that before the larvæ begins to sink? Is it in the gases?

Mr. France—Yes, I think it is the gases. This bee will somehow take nourishment and grow.

Referring again to the case mentioned before, the night I was there the bee-keeper was so intent upon it he went that night; he was so anxious to get a crop, but had not had one for four years, although he used to get good crops, but when he brought some bees from another locality he had but little honey; that night he put them in empty boxes without foundation, and to keep any of them from deserting he screened the entrance; 48 hours afterwards he gave them full sheets of foundation on five frames; he confined them to five frames; as fast as those were drawn out he put in other three.

A Member—Why do we starve them for 48 hours?

Mr. France—We all know that the bee goes in good condition from the hive to the flowers; it gathers nectar from the flowers and brings it home in its honey-sac; if you can get these bees in the hives without filling themselves with disease, they will not take it afterwards. I have sometimes set another new, clean hive in place of the old hive, boring a hole from the top, putting the diseased colony very quietly in the evening, on top without closing the entrance; you have not disturbed them; they have to go down and out at the bottom, and when they come back they can not return; the next day put the queen in, and in three or four days you can take the hive off and they are transferred; but if I should advocate that, some one would make a blunder of it.

A Member—This dried scale that you were speaking of—this turned-up part—suppose now that the colony was affected with foul brood in the fall and we didn't know it, and if that hive—if we happened to examine that hive in the spring—would we still find that scale in the bottom of the cell?

Mr. France—Yes, last fall, at one of the Farmers' Institutes, a man came to me and said: "I believe I have something I didn't know I had; I am afraid my bees have foul brood; I didn't notice any odor; I do know this: I have some brood-combs that have that little, black, turned-up something." He showed me some of the combs at his house—some of those dried-up things; I could not see the rosy stage; these bees did have foul brood last summer; if I should go through your hives now we would see nothing at those stages at this time of the year. You will not find the rosy stage in 90 times out of 100—only these little black scales. Last spring I wrote him, and he said: "It is just as you said; when breeding began the next spring, and they put honey or larvæ into those cells of dried-down scale—that is where the mischief begins and ruins it." As soon as he had brood begin this year it was diseased. I have never seen a case of foul brood that I have not been able to trace to carelessness on the part of the bee-keeper, in almost every case; we speak about it being contagious, and we are to blame; our neighbor allows the disease to be out and exposed; our bees, which we can not fence in like our farm stock, are exposed, and they go out and gather the disease and bring it back again.

Mr. Moore—What is the point about letting 48 hours elapse before putting them on full sheets? Is it to allow them to consume diseased honey?

Mr. France—That is it; the moment we disturb the colony of bee-workers they load themselves with honey, and we have no way to get these bees to rid themselves of that honey except to starve them, and put them in the hive with foundation or without; if we screen the entrance the queen sometimes becomes discouraged and will swarm.

A Member—Is 48 hours absolutely safe?

Mr. France—I never knew it to fail in the honey-flow season. As to my experience with black brood, I have had but very little; I found a case in our State and traced it from New York; I bought it at my own figure and disposed of it rather than to have any experimental work; there is this difference—black brood has somewhat of a turned-up appearance, but it relaxes; it has decidedly a different odor. I would liken it to a carpenter's glue-pot that has become spoiled; it has somewhat the odor of stale furniture glue. Black brood would have more of the odor peculiar to sour apples; if you have taken some apples and thrown them out in a little bunch and let them lay—it has somewhat the odor of those decayed apples. It also has somewhat the tendency to dissolve the wax of the side-walls of comb, but I have never known foul brood to injure the comb; that seems to remain perfect; again, these little, black, dried-down scales on the lower side-wall, which just the end would show looking in here [indicating], in that stage the comb looks apparently clean, and I fully believe, so long as that comb has not been subjected to heat sufficient to kill the germs of life, there it will remain dormant

and renew its power to destroy as soon as the bees put in their honey, pollen or larvæ.

In one of our counties just north I saw a peculiar instance. I was passing by with my liveryman—seeing some bee-hives, and it being noon-time, I said to him: "I would rather eat dinner with a farmer bee-keeper than to go to the hotel." We went in and I took dinner there, and he wanted to know my mission, and soon; he said to me: "My wife has a swarm of bees; I used to have a good many swarms and they all died." He was anxious to keep bees, and, being a mason by trade, he had sealed the entrances of those hives; eggs had been deposited there, and he had stored away those hives with those black scales in, in the granary; eight years afterwards a swarm of bees came there and alighted in an apple-tree back of the house. The wife, not knowing where those hives were, took a square cracker-box for a hive and put the bees into that, and they did fairly well, in a good, old-fashioned way; they filled up the box. She wandered off on missionary work one day to some of her neighbors, and being away the next time they swarmed he, coming down from the field, saw the bees out on the tree. "Now," he thought, "I have some hives, I will have them on a full set of clean combs;" and he did. He wanted me to examine the hive. I turned it up and got that peculiar odor. I said to him: "I want you to know to your satisfaction that I am right." I opened it up and took out the comb, and there were the sunken cappings, the ropy stage, and plenty of it; and over in the corner, where there was no brood at all, I found those black, dried-down scales of eight years ago. Then I went up to the granary and found many diseased combs there. I told him to make up a good fire in the big iron kettle and we would fix it.

A Member—Would you work on the McEvoy plan, or starve the brood?

Mr. France—Well, if I mistake not that is the McEvoy plan; we starve them just long enough to get out of that little bee the diseased honey.

A Member—I shook the bees off on starters and left them to go in and out as they pleased. The starving plan is closing the hive up with screenings, and the bees worried themselves to death; when I tried it I lost almost half of them.

Mr. France—If you screen them, and put them in a cool place and give them a little water they will be all right, otherwise they get annoyed; in almost all cases I leave the hive open, narrowed down to keep the robber-bees from coming in.

A Member—Providing a number of combs that had contained foul brood had been stored away, how long afterward might the odor of foul brood be detected—one, two, three, or four years?

Mr. France—I don't think you would get very much of it a year afterwards; it becomes so dried down and hard it would be hard to detect it.

A Member—What is the first stage by which it can be detected? If you don't know you have it in your yard how do you go to work to find it?

Mr. France—I question whether the naked eye could detect it; there would be no difference in the outward appearance.

A Member—In regard to the perforations—is it not a fact that you can not go to a healthy colony and find those perforations in the cells? Isn't it about 99 cases out of 100, you may say, that you do find those perforated cappings? It is just as if you had put a needle or pin in the cell. Is that not unmistakably foul brood?

Mr. France—Pickled brood may have; it is a very good guide-board.

A Member—With the foul brood the cappings don't begin to sink until after the gases leave the larvæ, do they?

Mr. France—Just as they begin.

A Member—Directly the gases leave the larvæ, which causes pressure on the top of the cell, directly the gases are released by that perforation, you may say the cappings then recede and have that sunken appearance, don't they?

Mr. France—Yes.

(Continued next week.)

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, \$1.00; or with the American Bee Journal one year—both for \$1.75. Address all orders to this office.

Contributed Articles.

Rearing Long-Lived Bees and Queens.

BY DR. E. GALLUP.

DEC. 16 and 17, our Southern California Bee-Keepers' Association had a meeting in Los Angeles. I dropped in on the 17th and was told they had drawn Gallup "over the coals" for condemning all our Eastern queen-breeders. Of course, I denied that point-blank. But I did, and do still, condemn the rearing of queens and having the cells built and cared for in small nuclei. It is positively the deterioration of our bees in the worst possible manner. So when I came home on the 20th, here was the American Bee Journal and C. P. Dadant's article. Now, can it be possible that I am such a dull writer that I cannot make myself understood, or what is the matter?

Now, Mr. Dadant, you say it would be a waste of time for anybody to tell you that your bees were inferior, etc. Did Gallup ever tell you that queens reared in the manner you speak of were inferior? Certainly not, for that is exactly what I have been teaching.

Mr. Dadant sums up finally, by saying, "In my opinion we must rear our queens in good, healthy colonies," and here again I do not disagree with him one particle. I have reared just as good queens as can be reared in this manner. Take my best colony in every respect, and I prefer the leather-colored queen instead of the light-colored one; make the colony extra strong in numbers, by filling the hives to overflowing with nursing bees from other colonies. Now I am so foolish as to think that I get more good cells built in a colony thus prepared, and am sure to get every cell with an extra-large amount of royal jelly to support the embryo. Every cell will contain a good queen, etc.

We do not have any poor cells and poor queens to destroy or discard; Mr. Alley says he does with his nucleus-reared queens. Now, my 36-frame hives were the small Gallup frame, not the Langstroth frame. I only spoke of one queen living 6 years, and her wing was clipped, so that I know. I received the queen from Adam Grimm as a present, and did not use her in my 36-frame hive, as it was before I even thought of getting up such a hive. I know that I have had a number of queens since that lived 4 or 5 years. I furthermore know that I have had quite a number of queens that would, and did, occupy 16 Langstroth combs with brood; I have had 3 within the past two seasons—tramp swarms—that I picked up, and naturally reared at that, and common black bees, no one had anything to do with their rearing.

When I took Mr. Kenny's bees, in Ventura county, I selected 2 leather-colored queens in 10-frame Langstroth hives to breed from. I commenced stimulating the first of February with diluted honey. I used the hives two stories high, both queens fully occupied 16 frames with eggs and brood, and I had 36 good queens from them by natural swarming, saving every one of them. I hived the 2 swarms when they came out, on ready-made worker-combs, and in 21 days each queen had its 16 combs filled with brood and eggs. I sold out to Mr. McIntyre, and he said in the convention the other day that that stock still leads all the apiaries in that section of the country for productiveness and profit. He is the Secretary of our Association—I say "our," because they unanimously elected Gallup an honorary member. He says there is not a queen in existence whose bees live from the first of May until the first of September. Well, I guess that is so.

Now, I must tell the circumstances, surroundings, etc.: When I moved to Iowa I purchased 65 acres of land in the edge of a body of heavy timber, and clean, rolling prairie, one mile out. I purchased the timber as a splendid location for bee-keeping, as I had lived on the open prairie in Wisconsin and did not like the locality for bee-keeping, as it was too windy, and not a good variety of flowers. Well, I cleared up 6 acres, and yarded my sheep on it; they killed all the sprouts, and in two years pretty thoroughly covered the land with rich sheep-manure, and then I sowed it to white clover and got a splendid stand. This was the first white clover in that part of the State. I cleared up a few acres more for orchard, vegetable garden, etc., on the east side of the house; the clearing was a strip of land, before

coming to the prairie, half a mile wide, covered with oak and wild plums, choke, black and red cherries, wild crab apple and thorn-apples, etc.—all one mass of bloom in their season. On the west side was heavy timber consisting of rock and white maple, three varieties of elm, willows on a small creek, lowland and upland basswood; so the blossoming was prolonged for four weeks; different kinds of oak, black walnuts, etc., four different kinds of goldenrod, all right in the timber, and no wind at all as the bee-forage was perfectly protected by the timber on all sides.

My white clover patch was so perfectly manured and protected that it produced large quantities of nectar. There was no forage of any kind to induce the bees on the open prairie. My hybrid colony swarmed some time the first week in May; I killed the queen in the swarm, and introduced a natural queen-cell, cut out 8 queen-cells from the old stand, examined everyone and found the umbilical cord attachment. After seeing the umbilical cord, the first one I ever saw from the basswood log, I had examined over 100 cells and found none, and began to think I must be mistaken when I saw my first one. In dividing colonies and compelling one-half to rear cells there is no cord; in rearing queens in nuclei there is none. But in natural swarming we find them, and in natural superseding.

Now comes a question, and I am like Dr. Miller, "don't know," because I never have examined to see. Is there an umbilical cord attached to the nymph or embryo where we take away the queen from a populous colony and compel them to rear a queen? That is the question before the house. Now, my observation goes to show that the cord is placed there for a purpose, and that purpose has something to do with the longevity of the queen. We may not be able to discover any material difference in the first two or three generations, where no other requirements are lacking for rearing first-class queens, but in the end it will tell. It tells at once to the observing person, where we divide our bees and compel one-half to rear queens.

Now, Mr. Dadant, as I have told you just where to look for that umbilical cord, look for yourself, and you will be a great sight better satisfied than you will be to have some professor to tell you. You will have no trouble in seeing or finding it at all; anyone can see it or find it when he looks in the right place, and at the right time, without a microscope or magnifying glass; and if you are as astonished as I was when I saw my first one, it will pay you to investigate.

Now I will get back to that hybrid colony. They were peculiarly marked, so that I could not possibly be mistaken in them; they were quite numerous up to the last half of August, and quite a number showed up on the first week in September, but they were very old looking, hair all gone, and almost coal-black. Remember, they were perfectly sheltered, and had no winds to contend with. The bees from Mr. Alley's two queens that he sent me were all gone by the first week in February. There was no disease about them, they simply died with old age. The queens were both alive, one had barely a few bees, but not enough to occupy two sides of a comb; the other had probably a trifle over a gill of bees, all gone in the winter in just three months. Here was short life with a vengeance. Those bees did not die in the hive but flew away themselves, to die.

Orange Co., Calif., Dec. 28.

How Bees Feed Each Other—Stimulative Feeding.

BY ARTHUR C. MILLER.

MR. DADANT has an interesting article on stimulative feeding, on page 231, but unfortunately for the value of his deductions they are based on erroneous premises.

It is not pleasant to charge so careful and usually painstaking a man as is Mr. Dadant with ignorance of ordinary bee-life, but feeling that he is as anxious as anybody for the truth, and that he will accept my correction in the kindly spirit in which it is intended, I will without further apology show wherein he is wrong.

1st. He says bees returning from the field instead of depositing the load in the cells often hand it over to a young bee so as to get off to the fields again.

Possibly bees sometimes do this, but I have never seen it, and I have watched bees pretty closely. Further, such an operation would delay rather than speed the bees' movements, because it is a very short operation for a bee to

empty the contents of her honey-sac into a cell, but it is a slow operation for another bee to suck up a load with her proboscis.

2d. Whenever one of the young bees with one of these transferred loads "meets a queen she respectfully and deferentially holds out her proboscis towards her and offers her a taste."

Food is never given on or by the tongue of the giving bee, but is taken from that bee's mouth by the tongue of the receiving bee. The disgorging of food is done with the proboscis folded back. Further more, bees, except in feeding brood, never voluntarily give food; it always has to be asked for, and sometimes almost taken by force. Also, it is not fresh nectar which is given to the queen, but digested pollen and honey, *i. e.*, chyle. I have never seen food offered to a queen, the "show of tongues" when she is taking food merely being an attempt on the part of the bees to get a taste of the coveted "pap."

As to the bees' deferential treatment of the queen, it is all a mistaken idea. Except during a peculiar operation which I have termed "grooming," bees never show anything which approaches respect or deference for their mother. I know these things from my own oft-repeated observations, and have shown them to others.

3d. When bees are not harvesting they are quiet. "If the bees are fed sparingly and often, they are stirred up and create more heat." (My italics.)

That is a clue to the increase in the queen's laying, the increased activity with its resultant increase of heat. Having kept bees chiefly as a pastime I have probably devoted much more time to experimenting than persons who keeps bees for a business. But as a hobby which pays its own way is always more pleasant to ride than one calling for cash, I have always tried to make the bees pay their way, and have succeeded. Among other experiments were many on stimulative feeding in the spring. All sorts of food, fed in all sorts of ways, and to all conditions of colonies, at last forced the conviction that "stimulative feeding" was always done at a loss; that the best time to feed the colonies was in the fall, and that colonies worth wintering when given sufficient food then were in the best of condition in the spring, and for the harvest.

4th. In the example cited by Mr. Dadant, where a colony kept up a business of slow robbing, he attributes its great increase to the acquisition of the food. If the results were the same in the majority of cases such a conclusion might be drawn, but I have not been able to obtain even a fair number of colonies that responded thus to slow feeding. But it should be noted that when the unintentional feeding was progressing, the weather was such that the bees could fly out daily, and that they, to all intents and purposes, were getting a natural supply of food. It is not possible thus to feed a whole apiary, nor can we pick out the needy and set them at sly feeding. Feeding in the hive or at the entrance is entirely different. If a colony at that season can double itself in a month we may be confident that there was behind that growth some far more potent cause than a "one bee at a time" food-supply.

Providence Co., R. I.

No. 1.—Queen-Rearing—Are We Advancing or Retrograding?

BY G. M. DOOLITTLE.

A YEAR or two ago, much stress was laid on our rearing better queens than we had been doing during the past, and many new thoughts were expressed along this line, looking toward an advance. Then the matter seemed to wane somewhat, and lately I notice some thoughts expressed which seem quite contrary to those of two years ago. I find some arguing that a pint of bees, if of the right age, will start queen-cells and rear better queens, than will a large number of bees without any special reference to their age; and that "nearly every bee-keeper nowadays" starts his cells by taking a pint or so of young bees to do it with. This pint of bees is to be taken and caged in such a way as to cause them to be very sorrowful or like children having lost their parents, and that they have been kept thus till they mourn themselves almost to death, then these young bees, even if there is only a pint of them, will rear better queens than will a whole colony in a normal condition. Is this correct? Can this be an advancement?

It is claimed by some that the queen-breeders of the past did not know that "young bees were the chief essen-

tial to queen-rearing, and without them success is impossible." Such claims can only be made through a lack of being conversant with the literature of the past, for considerable was said on this subject during the latter seventies and eighties, in opposition to the claims then made, that all that was necessary to rear good queens was to put a frame of brood in a hive and set the same on the stand of a populous colony, after removing said colony to a new stand. Such a procedure was spoken against by many, on the ground of its not providing young bees for the work of queen-rearing. The author of "Scientific Queen-Rearing" plainly states in that book, that "Nature designed young bees to do this work," and that book was written during the year 1889, and the experiments leading up thereto were conducted during the previous five years. To be sure, these young bees were not caged, a pint at a time, for this work, for such would have been considered as a move in the wrong direction, as it undoubtedly is now. Why go to the extra work and expense of caging a pint of young bees when such are in the upper story of any populous colony by the thousands?

All careful observers know that very few but young bees, of the right age for queen-rearing, are in the upper stories of our hives during the working season of the year. Why cause the bees to "thrash and mourn at the loss of their queen and brood," and be thrown into an exceedingly abnormal condition, under which conditions no really good work at queen-rearing can be done, as is shown by the short life of queens so reared, and their workers, when all know, or should know, that the best, long-lived queens, giving long-lived workers, are reared only when a colony is in as nearly a normal condition as possible? It is far easier to set a frame of prepared cell-cups into an upper story of a colony, where there are thousands of young bees of the right age, in a perfect normal condition, than to adopt all the "fuss and feathers" of catching and caging a pint of bees, and then throwing them into a frenzy and an abnormal condition, only to get inferior queens in the end. And this has to be done every time a batch of cells is to be reared, while with the normal plan as given in "Scientific Queen-Rearing," that gives the best, long-lived queens, (as thousands who have used that plan can testify), one preparation of a single colony in early spring, will give a batch of perfected queen-cells, of the highest order, three times a week during the whole season.

Accepting and advocating a plan for rearing queens with only a pint of bees, can only prove a backward movement, with all desiring the best of queens, or the improvement of stock; and the only plea I can find for such a mode of procedure is that a person may be able to place a maximum number of queens on the market at a minimum cost. If the statement that, "Nearly every bee-keeper nowadays starts his cells by taking up a pint or so of bees," be true, the bee-keepers of "nowadays" are to be pitied, for to rear good queens the warmth of the cluster must be kept up to a temperature of from 95 to 98 degrees, as I have proven several times with a self-registering thermometer; and no pint of bees can maintain this temperature, except in very warm weather. With the advent of a cool day or a cold night, the embryo queens would be partially or wholly chilled, all of which would be very much against any good results.

But we are given to understand that the reason why this pint of young bees will do such good work, lies in the fact that they are all of the right age, without any old bees, for, say they, these "older bees are a detriment." I wonder how many believe such a statement as that. Can it be true that all of the good queens that have been reared from the time Samson found the colony in his lion's carcass, down to the nineteenth century—which brought to us the stock from which our own bees sprang in so nearly a perfect condition as we found them—were reared without these detrimental (?) old bees? No one can believe such a proposition. Old bees are as surely needed in the production of good queens as are the young ones, even if they are worthless at cell-building and supplying the royal larvae with chyle for their growth. And the science that tells of no old bees for queen-rearing is wrong.

In order that the young bees may do their part, the old bees are needed to bring in forage from the fields, and keep up the proper temperature of the hive on cool days and cold nights; and especially to keep the colony in as nearly a normal condition as possible, without which no good queens can be reared, unless these conditions are kept up artificially by man, the latter two of which even man cannot supply in any other than an imperfect way.

In all the experiments I have made, trying to keep up the right temperature for queen-rearing with very small

colonies, I have failed. For the same has always resulted in a delayed development on account of the temperature falling too low during cold spells, or the thing has been an entire failure on account of the temperature running too high for a short period, which is sure to result in the death of the embryo queens.

From all the experiments that I have tried during the past 30 years of effort at improved queen-rearing, I am convinced that the best of queens can be reared only where a colony is strong in numbers, with bees of all ages, and the conditions the same, or very similar to, what they are during times of natural swarming, and in cases of the supercedure of queens; and I say this after having tried all of the plans of caging bees, etc., that have been put before the public.

I believe it to be of far more importance to us of the present, and to those who are to come after, as well, that we bend every effort to improve our bees as much as possible, using only the plans which give the best, rather than in trying short-cut plans that we may distance some others who are trying to see how cheaply they can produce queens and place them on the market. Onondaga Co., N. Y.



A Plan to Prevent Swarming.

BY R. F. HILL.

THE plan to prevent swarming practiced by the bee-keepers in this locality seems to be exceedingly simple and successful, and I give it as follows:

The hive in general use is the ordinary 8 frame. As soon as the bees appear to be crowded, or show disposition to throw off a swarm, a hive filled with combs or foundation is placed on the old stand. Two frames of brood and the queen are removed from the old hive and placed in the center of the new. If any queen-cells are discovered on the combs, they are destroyed. A queen-excluder is placed over the new hive, and the old one, after the combs have been carefully inspected, and royal cells destroyed, is placed on top. All ingress and exit from the old hive is down and through the new one, which the bees will immediately fill with honey and brood. As soon as the brood is hatched from the old combs, there being no further eggs laid, the bees clean out and fill with honey.

The process of placing new hives under old ones continues all season, in many cases as many as 4 or 5 hives being stacked one above the other, the queen-excluder being always kept next to the parent colony. If this plan is followed, there is little or no trouble about swarming, and less about queenless colonies.

This, of course, refers to the production of extracted honey, but it certainly produces a strain of bees that are little inclined to swarm.

My own experience and opinion about bees is that there is a whole lot of humbug about prolific and long-lived queens. The poorest queens appear to lay a great many more eggs than I have any use for, as it keeps entirely too large a proportion of the bees employed as nurses, and too small proportion as honey-gatherers.

The plan just outlined delays the egg-laying process, because the queen has to wait until the new cells are prepared.

If a colony becomes weakened the most practical way is to remove a few frames of brood from a strong colony, or else shake them out into a stronger colony.

Wormy frames, and queens that permit worms, I immediately get rid of. Ramsey Co., Minn.

Honey as a Health-Food is the name of a 16-page leaflet (3½x6 inches) which is designed to help increase the demand and sale of honey. The first part is devoted to a consideration of "Honey as Food," written by Dr. C. C. Miller. The last part contains "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by every one who has honey for sale. It is almost certain to make good customers for honey. We know, for we are using it ourselves.

PRICES, prepaid—Sample for 2 cts.; 10 for 10 cts.; 25 for 20 cts.; 50 for 35 cts.; 100 for 65 cts.; 250 for \$1.50; 500 for \$2.75; 1000 for \$5.00. If you wish your business card printed at the bottom of the front page, add 25 cts. to your order.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

A Wet Spring and the Bees.

Rain, rain, rain, how it has rained for three days, and how things are growing; the grass looks as if it might be the last of May instead of the 15th of April. If the bees survive the changeable weather it surely does look as if we ought to have a big crop of honey this year. But you never can tell; it is not safe to count on a honey crop before you get it.

The ground was so full of water last fall, and we have had so much rain this spring, that the bottom seems to have fallen out of the roads—not for years have we known anything like it, so that we have not taken our bees to the outapiaries yet, but expect to haul them soon. I am always glad to get them located, then it seems as if business had fairly begun.

As I stood watching the bees the other day I was surprised to note the number of different kinds of pollen they were bringing in, and they were fairly tumbling over one another in their eagerness to get out.

In the spring we always close the entrances of our hives by means of an entrance-block, so that only a very small entrance is left—about an inch square. On very warm, pleasant days, it would seem as if it were almost too small, and the bees come tumbling out one over another, seemingly resenting such an arrangement; but when the thermometer takes a sudden drop, and the snow begins to drive, and the cold wind howls, then I am sure they appreciate it (at least we do), as I feel pretty certain it prevents brood from being chilled—something like putting an extra cover on the bed, you know.

Watering the Bees—Sunflowers, Etc.

Some three years ago I read about spring dwindling of bees, that they go out to get water and many get chilled and do not get back; and that occurring every day was partly the cause of spring dwindling. I read about it in the American Bee Journal one evening, after I went to bed. Before I went to sleep I had them all watered (in my mind), and I soon put it in practice by having a little trough at the entrance of each hive, so all they have to do is to come out to the trough and get the water, and go back. The troughs have a little piece nailed on each side of one end that goes into the entrance; it fits up close against the hive. I have the entrance in the middle of the hive, so it is at one edge of it. The troughs are 9 inches long, 4 inches wide, and 1½ inches deep. I am going to make some more, but I will make them deeper, so they will hold more water; the ones I have hold only a pint. I will make the strips wider. I nail the strips on the side of the bottom part, making it the same length as the bottom piece, then the two end-pieces across the end of the bottom-piece and the ends of the pieces that I have nailed on the side. They have to be sawed true, so as to be water-tight, or they will leak all the water. I cut the stalks of my erianthus grass and lay it on top of the water so the bees will not get in and drown. Anything that will float will answer to keep them out of the water. Of course, this is for the sisters who are keeping bees in a small way like I am.

My bees had a flight Dec. 2, and three in February, so I think they will winter all right; they seem strong when flying.

Either I or some one else made a mistake in my last article about my age; it should have been 75 instead of 79.

Yes, I can use a plane and saw as well as a hammer. I can saw on a straight mark as good as any man. I can do fancy-work, and a good many other things that do not belong to the bee-business. I raised a good many sunflowers last summer, and the bees would work on them until they were as yellow as the flowers. I had 90 quarts of seed; my pigeons are very fond of them.

The article in the American Bee Journal about the spider-plant, and how to raise it, is worth half the price of the journal. I did not know why I could not get it to come up until I read that article. I have saved a lot for the bees,

and want to plant a lot more this summer for them, and have the seed to feed to the pigeons.

I can agree with your mother, Miss Wilson, about tea and coffee. I have not used either for over 50 years, and I seldom drink anything at meal-time, as I think it more healthy to eat without drinking. I use a good deal of fruit-juice put up as fruit.

MRS. SARAH J. GRIFFITH.
Cumberland Co., N. J., March 9.

The Afterthought.

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

GETTING EXPERIENCE WITH INCREASE.

Neither novel nor ever likely to get out of date—is Dr. Gallup's advice to those desiring to start apiaries. Begin with very few, and make your colonies. You don't know so much about bees but that what you learn in the process will more than pay you for the time you lose. So doing, the purchase price of a lot of colonies is saved, and is a clear gain to you. Page 182.

GROWING BASSWOOD TREES.

I can testify that basswood seedlings three inches high—neglected and not in their natural soil—do not always come to naught. But all the same, J. D. Gehring's advice to get a load of dirt from where basswoods naturally grow seems to be sound. But the dirt alone, possibly it may not entirely prevent the slaughter wrought by the scorching mid-summer sun of the first season—if that is the main trouble. Who knows? Page 183.

DIVISION RATHER THAN SHAKEN SWARM.

It's a division rather than a shaken swarm that Geo. W. Stinebring tells us about on page 183. Good thing in its way—although with a colony at swarming strength, looking over the combs and setting aside the comb the queen is on, is not likely to float on as smoothly as the reading of it does.

INFORMATION REGARDING BEE-CULTURE.

"Please send information regarding bee-culture," eh? Surely, there is latitude enough. Natural for innocent outsiders to suppose that we department folk must have some information on hand. Why not trot a sample of it out? Supposing it had been a man, and that he had fired his request point-blank at the whole staff, perhaps he might have got the maxims below:

Bee-culture is not designed for women-folk.

Bee-culture is specially adapted to women—and children, and invalids.

Bee-culture is a plain bread-and-butter affair, and sentimentalism mustn't be allowed to get into it.

Bee-culture is a science, a fascinating science, and if incidentally some profit arises from it no right-minded bee-culturist should be too much taken up with that.

Bee-culture is a boundless mint of money—'cause you go in and make your capital as you go along—and bees work for nothing and board themselves.

Nobody gets rich at bee-culture—and "off years" keep coming in which you do not make anything—and bad winters in which your capital disappears.

Bee-culture has nothing in it at all—unless you start a bee-paper and get rich at that.

Bee-culture is so nice and neat.

A leading objection to bee-culture is that it is so miserably dirty.

One of the most independent of all ways to live.

Too sadly dependent on the city commission man—'cause one's product is not a staple, and there's no reliable market for it.

The main objection to bee-culture is that you might get stung.

The getting stung part is too trifling to be thought of. So nice to be considered a higher order of being than plain farmers.

So "nice" to have everybody say, "He don't work for a living; he just fusses with bees." Page 184.

(You see by the above that this is house-cleaning time, and so the proper season to hang out musty samples of in-

formation on the line. Misery!! By the time this gets into print they'll say, "How late your house-cleaning comes!"

BLACKS AND ITALIANS IN BAD WEATHER.

An idea advanced by Geo. B. Whitcomb, page 187, may have something in it. Claimed that in very rainy localities black bees will be patient and stay in the hive whenever it is unprofitable to be out. Also claimed that Italians are pretty sure to be impatient and reduce themselves to ruinous weakness by going out in bad weather. Wonder if the sliding screen in front, which we had up a few weeks ago, could be made to help in this case.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.)

Management for Increase.

I have 28 strong colonies and want to increase to 50 if possible this season, and would like to do it artificially as I think it will save a lot of time. This is my second season with bees. How shall I proceed? Would it do to divide the frames just before they are ready to swarm? and is it best to put frames of foundation in the old colony where I take out the frames of brood?

ONTARIO.

ANSWER.—Yes, one of the simplest ways is to divide each colony into two parts before the bees swarm. Leave the old queen on the old stand, and put more than half the brood with adhering bees on a new stand, and they will rear a queen. Fill vacancies with frames having full sheets of foundation.

But that's far from the best way. Just what the best way is, depends upon circumstances, and it would take more room than the patient editor would allow us in this department to go fully into the whole subject of artificial increase. Study up general principles in your text-book, and you will be better prepared to judge what is best for you. If there's any special point in the text-book that needs further elucidation, ask all the questions you like—that's what this department is for. If the editor can't get it all in with the fine type he's using, he can put some of it in lead-pencil around the margin! Artificial increase is perhaps given more fully in "Forty Years Among the Bees" than in any other book.

Light in Supers—After-Swarms.

1. Will light getting in between the supers and brood-chamber, or under the cover, have a tendency to keep the bees from working in the super? I have some supers that do not fit snugly, but I can use packing to exclude the light if it is necessary.

2. In case of after-swarms, what would you recommend doing with them?

VIRGINIA.

ANSWERS.—1. Perhaps the light would do little or no harm, but on cool nights it isn't a good thing to have cracks admitting the cold.

2. Return them, or unite two or more of them, unless you want the increase. Better still, prevent them. Set the swarm on the old stand with the old hive close beside it, and a week later move the old hive to a new place.

Questions on Wintering and Swarming.

1. Can I make a standard Langstroth or a Danz. hive a safe place for bees to reside in during the winter in northern Illinois? If so, how? Laying aside the loss of honey (salable), wouldn't you advise Jumbo or Dadant hives?

2. If I raise the coffee-sacking or burlap with cobs or sticks, the bees usually come up and cluster above the frames in cold weather (for me) in outdoor wintering. Is this as well as to keep them down on the frames? It seems to me that those bees that have to stay in those narrow spaces between the honey, near the top of frames, must need have sore throats—and they are the ones, perhaps, that have rheumatism in their shoulders and can't fly in spring-time.

3. Will the weight of honey in a 10-frame super sag the T tins in the center so as to make the $\frac{1}{4}$ bee-space too narrow?

4. Are the side supports of the loose T tins set into the base of super? If not, is there not a vacant space left for the bees to propolize and to let in cold air? You need not answer this if you think I would better buy one and look for myself.

5. I have the most of my bees now—that show three yellow or bronze bands. Their queens do not run excitedly, and the bees act, I think, in quite a proper manner, waiting, as a rule, on the comb near or over the young, and generally receiving with kindness if I am polite

in my calling; but these bees have mostly, or entirely, black or hybrid ancestors. Are they Italians? Of course, I have been choosing their mother and brothers from the better colored queens for several years, and there are now colonies in which I can seldom find a bee which does not show 3 lighter bands. Do you think that bees from Italy would be willing to "sit in the same pew" with them? and could they breast so strong a wind as those who helped tempt the Vandals to Rome?

6. I spent last evening reading "40 Years." Now, after I "put up the queen" and the bees below have started cells, (page 164), I give them a cell about ready to hatch, of my own choosing. After the queen from this cell begins to lay, I "put down" the old hive, having removed its queen 2 or 3 days prior, and unite the two. Will this hold the whole union from swarming? We could get a young queen and a good swarm this way, but would the "put down," not knowing that the "holdens" below had reared a young queen of the "current year," give the whole union the "fever?" or would the aborigines tell the prodigals that they had a current queen now, and that she was not going to move until next spring?

7. Would an inserted cell act on swarming the same as a queen hatched from one of their own cups?

I have good reason for believing that a young queen feels as you say about swarming.

ILLINOIS.

ANSWERS.—1. You can make them safe by having a lot of extra combs of sealed honey, and using these fall and spring. But the larger hives are safer. I got as much honey from 10-frame hives as from smaller ones, but it was harder work handling them.

2. Being above the cluster, they ought not to suffer; but there is really no need of any more space for the bees than just enough for them to cross over the top-bars.

3. The upright part of the T tin does not allow the least sag.

4. There is no trouble whatever. If sheet-iron is used, the thickness is not enough to count. If bent staples are used, they are mashed clear into the wood, so not the slightest space is left.

5. In spite of the apparent prevalence of black blood in their ancestry, your selection seems to have been such that Italian blood prevails, and your bees can hold up their heads as high as any "to the manner born." The crossing is rather an element of strength than of weakness.

7. Let's get at the principle—if we can. Other things being equal, a young queen is less likely to swarm than the older one. But if the young queen is in the right surroundings, she'll swarm about as surely as an older one, for the condition of the brood is a very important factor. I think that the chief reason why a colony does not swarm with queen reared in the hive the current year, is because of the condition of the brood, there having been for some time no young brood to feed. So when you put down brood that has been queenless only two or three days, they have the stuff to swarm with, and they may swarm.

7. An inserted cell will result exactly the same as one of the same age built by the bees themselves, providing there's no change in the brood.

Management at Swarming-Time.

I caught 10 colonies of bees in box-hives, and I would like to know if it will do in swarming-time to pick the box-hive up bodily and shake the bees out, put a new hive with the bees on the stand, and put the old hive in a new place?

My first experience with bees was last spring. I caught a colony in a box-hive, and they swarmed 4 times, and what remained I drummed out and divided them between the last two swarms. From the first swarm I got 72 sections well filled; from the second I got 48 sections. I don't want so much increase, for I have now 19, all told—10 in box-hives, and 9 in 9-frame hives, called the "Jones Combination Hive."

ONTARIO.

ANSWER.—Yes, it will do to shake the bees out, if you can, and if you make sure to get the queen with them. You will probably find it easier to drum them out.

Catnip.

1. Will catnip grow on sandy soil?

2. Does it prefer shade or sun?

3. Will it blossom the first year?

WISCONSIN.

ANSWERS.—1. Yes, if not too sandy.

2. It seems to have a partiality for hedgerows, but that may be more because of the protection, for it grows well right in the full blaze of the sun.

3. I think not.

Forced Swarms—Wintering Bees.

1. In your comments on the "A B C of Bee-Culture" (No. 307, page 6). Do you put a super on the new swarm at once when hived? Do you use an excluder?

2. In the forced-swarm method do you use starters or full sheets of foundation? Do you put on a super at once, and do you use an excluder?

3. If one uses full sheets of foundation in the brood-frames, will the bees change worker-cells into drone-cells when they get ready? If so, how would it work in forced swarming to melt up the comb in the old hive after the second drive and replace with starters? If done every year would it keep down an excess of drone-comb?

4. The last two winters I have put on a super (filled with unfilled

YOU ARE TO BE THE JUDGE!



receiver can truthfully say that its use has done him or her more good than all the drugs and doses of quacks or good doctors or good medicines he or she has ever used. Read this over again carefully, and understand that we ask our pay only WHEN IT HAS DONE YOU GOOD, AND NOT BEFORE. We take all the risk; you have nothing to lose. If it does not benefit you, you pay us nothing. We do not offer to send you a free sample to last three or four days, nor to send you a medicine which will cure you with four or five drops, but we do offer to send you a regular \$1.00 package of the most powerful curative medicine known to the civilized world, without one cent or risk to you. We offer to give you thirty days to try the medicine, thirty days to see results before you need pay us one cent, AND YOU DO NOT PAY THE ONE CENT UNLESS YOU DO SEE THE RESULTS. You are to be the judge! We know that when Vitae-Ore has put you on the road to a cure, you will be more than willing to pay.

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THEO. NOEL COMPANY, J. P. Dept., Vitae-Ore Bldg., Chicago, Ill.

A MINERAL SPRING AT YOUR DOOR.

ished sections) on several of my hives. These sections were filled with black honey, and the bees cleaned them out nicely. I used no packing over the frames, and the bees came through nicely. I wintered them out-of-doors in a winter-case, the ones I use holding 3 hives. The sides and ends are made of boards cleated together, lined with tarpaper, and can be taken down and put away for use again. There is plenty of honey below. The temperature went as low as 20 degrees below zero. Is there any harm in doing this way. F. R. BRIGGS.

ANSWERS.—1. Follow the rule that applies to giving supers to any swarm. If you give a super at once there is danger that the queen will go up and lay in it; so wait a day or more until the queen has begun laying in the brood-chamber, or else give the super at once over a queen-excluder.

2. Some prefer starters, and some say full sheets of foundation, or still better drawn combs. In my own practice I have never used shallow starters, for fear of drone-comb. But if you want to save on foundation, you will be pretty free from drone-comb by giving at first no more than four or five frames, having shallow starters in these, and then after the bees have filled these with comb fill up the hive with full sheets of foundation or drawn combs. The answer to your first question gives the answer as to super and excluder.

3. In the hundreds of combs that I have had built upon full sheets of worker foundation, I don't think I have ever seen two inches square changed into drone-cells. If from any cause small patches of drone-comb are found, cut them out and fill up the holes with patches of worker-comb.

4. Your success is good proof that the plan is all right. The only objection I think is the fear that the sections would be injured for future use. The same sections, however, might be used year after year.

Extracted Honey Production and Marketing.

1. I guess you will think I am troubling you often, but I can not help it, can you?

2. What would be best to put my extracted honey in, a barrel or a galvanized-iron tank?

3. If I put it in a barrel or tank should I not have a faucet near the bottom to draw the honey off?

4. Would a wooden faucet be as good as a metal one in a barrel?

5. If I have a metal tank made should I have a metal cover made for it, or would a piece of cloth do in place of it to keep out the dust, etc.?

6. About 8½ cents a pound is the most I can sell comb honey for. Now, can I sell a one-quart Mason fruit-jar full of honey, jar and all, for 40 cents, and make it pay? I can get the jars for 75 cents a dozen.

7. Is a one-quart fruit-jar a good package for extracted honey?

8. Must I put a rubber around the neck of the bottle, or would it make the honey taste of the rubber?

9. What kind of a label ought to be put on the jar? Do you think one like No. 17, in A. I. Root Co's catalog of honey-labels, is a good one? I do.

OREGON.

ANSWERS.—1. No, neither do I want to help it. So long as I have on hand a stock of answers from which I can select, to fit such questions as are not already answered in the text-books, I'm glad to have the questions come. When I can't find any other appropriate answers I still have a job lot of the "I don't know" brand.

2. Hard to tell. Perhaps a paraffined barrel. But if the honey doesn't stand in it a long time, there are advantages in the metal.

3. The faucet is a great convenience—almost a necessity.

4. You can have a poor one of either kind, but I suppose one of the best metal faucets is better than the best wooden one.

5. Use a circular cover of cotton sheeting, having a hem about the edge and a rubber cord through the hem.

6. With the conditions you name, you ought to make the extracted pay a good deal better than the comb.

7. Yes, one of the best; but in some markets it is too large. I may as well add that sometimes it is too small.

8. The rubber will do no harm, and it's safer to use it.

9. Yes, what you mention is good. It's all a matter of taste; find out what your customers like best.

Indication of Presence of Queen—Rape.

My colony of bees which is upstairs in the barn was unpacked March 30, and to all appearances they are very much alive, but I could not find a single sealed cell. I did not give them anything to eat that day as I should have done, and the next day when I examined them I found nearly three-quarters of them dead. I suppose they must have been just on the verge of starvation when I first opened them. I filled a couple of combs with thick sugar syrup, and a day or two ago when I looked at them there were several cells sealed. I think they contain honey. As far as I could see there was no brood or eggs. They have carried in a little pollen and some syrup I put out for them. I have looked at them several times and even among so few bees I have in no case been able to see a queen. Would the sealed cells of honey and the pollen carried in indicate the lack, or the presence, of a queen, in your estimation? and if there were a queen should there not be eggs and brood by this time? Many soft maples and elms are in bloom already.

In answer to the question about rape, on page 234. I will say that there is a Farmer's Bulletin, free for the asking, on "Rape as a Forage Crop." There are two varieties of rape—the annual, which is no good for fodder and is grown simply for the seed from which a lubricating oil is expressed; and the biennial, which is used chiefly for fodder and does not bloom till the next year after planting. As the biennial variety does not live through the winter, and the annual is not grown here, I should judge that rape would not cut a very important figure in the honey-pasturage of this section. I think if rape were sown with alsike clover it would soon smother the clover out on account of its more rapid growth. If I am not right I would gladly be corrected.

MINNESOTA.

ANSWER.—The fact that you could not find a queen with only a handful of bees in the hive is not positive proof that no queen was present; neither is this casting any reproach on you as a queen-finder; many a time I have failed to find a queen in a hive with a mere handful of bees, and I don't know why. The sealed cells of pollen and honey indicate nothing one way or the other as to the presence of the queen; but the absence of brood and eggs when the bees are carrying in pollen and honey is pretty strong proof that there is no queen there.

The Premiums offered this week are well worth working for. Look at them.

FROM MANY FIELDS

Wintered Well—Large Hives.

Bees have wintered well in Ontario. I put into the cellar over 300 colonies, a few I bought only a few days before putting in, and lost 2 by starvation—one queenless, and evidently drone-layers in the comb in the fall. This was the total cellar loss. At least half of the colonies are now occupying the brood-chamber in full 12 Langstroth combs. The last shadow of doubt has passed away about large hives for me. R. F. HOLTERMANN.
Ontario, Canada, April 15.

Loss from Starvation.

It appears now as if the honey crop in this locality would be a failure. There have been no swarms and little or no surplus stored, and the bee-keepers may be thankful if their colonies do not starve during the usual drouths in May and June. It appears to me that the loss from starvation of bees in this locality is much greater than ours from freezing in the North.

There is something curious about the blossoms; my strawberries blossomed white, but did not set fruit. On examining the bloom I ascertained that they had no pistils. Another grower told me the same thing, and added that his plums were the same—bloom destitute of pistils, and set but little fruit.

Last season a prolonged drouth was followed by almost constant rain, and this may have injured the formation of buds; and this may also have something to do with the loss of honey in the wild bloom.

Mrs. L. HARRISON.

Washington Co., Fla., April 26.

Grease to Prevent Propolis on Fingers.

An item lately appearing in the American Bee Journal stating that grease or butter would loosen the propolis off the hands. Why not put the grease on the hands first, and prevent the propolis sticking to them, which it does, as I know by many years experience? I carry along a little tin box with grease, and smear my finger occasionally, and have no propolis to laboriously unstick.

Lasalle Co., Ill.

A. MOTTAZ.

Spring Dwindling.

It has been very bad bee-weather here in the Ottawa Valley, so far this spring. The snow went off early in March, but now we are having hard frosts every night, and cold north and east winds every day. It is snowing today. Most of the bee-keepers around here have had their bees out for some weeks past. Stores are generally low, and spring dwindling is going on at a rapid rate. There will be a great loss of colonies if this weather continues much longer. Mine are safe in the cellar yet. I took them out about two weeks ago and let them have a good flight on a warm afternoon, and they have been as quiet since as in January. I have 10 colonies.

W. A. HANNA.

Ontario, Canada, April 23.

North Texas Convention.

The 25th annual session of the North Texas Bee-Keepers' Association was held in Greenville, April 1, 1903. The meeting was called to order by Vice-Pres. J. M. Hagood. Prayer was offered by Rev. J. N. Hunter. But few of the leading bee-men of the Association were present. Pres. W. R. Graham has been an invalid for two years.

The usual program of apianarian topics was discussed, to-wit: "Queen-Rearing and Introducing;" "Drones, Pure or Hybrid;" "Apiarian Supplies;" "Diseases of Bees—Foul Brood, etc.;" "Strains of Bees—Hybrids,

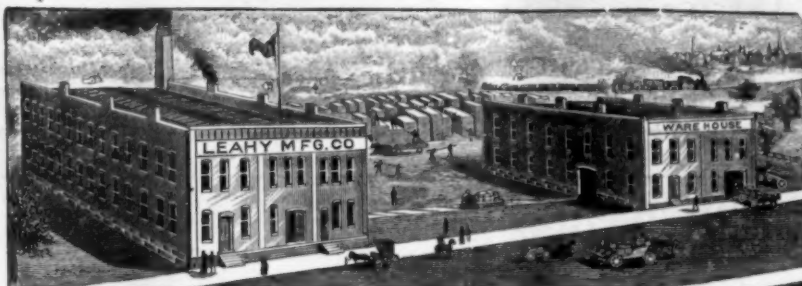
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Texas leads all the States in bees and honey. Two years ago the Legislature appropriated \$750 for an experimental apiary at College Station. The present Legislature added \$1000 more.

The following officers were elected for the ensuing year: W. R. Graham, president; J. M. Hagood, vice-president; W. H. White, 2d vice-president; Rev. W. R. Lowrey, chaplain; and Rev. J. N. Hunter, secretary, of Wylie, Tex.

The usual vote of thanks was offered to W. R. Graham & Son for their hospitable entertainment; also a tender of sympathy to our venerable president, because of his affliction.

The convention adjourned to meet at Blossom, Tex., the first Wednesday in April, 1904.

J. N. HUNTER, Sec.

Collin Co., Tex., April 10.

Report for 1902—"Missing Link."

Eighteen colonies averaged 100 sections each. Our leader, a hybrid, put up 200 nicely finished sections; they did not appear as strong as many others that did not reach one-third as many sections.

Will those who have had colonies making very large yields please report and say what kind of management, if any, contributed to the result? In this case nothing was done excepting placing on supers and removing them about dark. A stray young queen was found in one of the supers, but was allowed to escape. I regretted her loss later. I favor absconding swarms, and always try to secure them; they seem more vigorous than others. I have five such now that I secured last fall; one of them is a 3-banded Italian, and the strongest in a lot of 35 colonies.

We favor the Danz. frames, and find single bodies large enough. I tried double-deckers, but they are failures here for comb honey. Moving supers, bees and all, to assist weak colonies did not benefit the one, but injured the other.

I want to know about that "missing link." Does it only occur in natural-swarmed cells, and not in any other methods? We do not care whether it is a tube, cord, rope, or sausage-link. I merely want to know if it occurs in one case and never in the other.

Bees wintered well out-of-doors here. I got a good start during the fine March weather, but April, to this date, is cold and wet. The wind is almost constantly in the northeast.

White clover has a strong start, but Yankee weather puts a big discount on the prospects.

I had some hybrids, as well as pure Italian bees, working on red clover, and if my memory serves me rightly I saw German bees working on it in this locality 45 years ago.

GUY HUNSBERGER.

Northampton Co., Pa., April 6.

Cold, Wet Weather—American Hive

I can not keep bees without the American Bee Journal, for sometimes one item is worth its price for a year.

I am starting the season with 20 colonies in fair shape, but the weather has been cold, and so much rain that they could not work or build up as they should have done.

I use the American hives, and would have no other for this locality. The size of the hive is 15 inches square, brood-frames 12 $\frac{1}{2}$ x 11 $\frac{1}{4}$ inches, one and two stories high as they are needed. They beat any hive that I ever tried for building up nucleus colonies. I hope for a good year.

F. McBRIDE.

Hardin Co., Ohio, April 17.

Management of Bees.

I noticed a number of inquiries about spring management of bees. I will give some of my experience dating back to 1876.

I started in with 2 colonies of bees, with the view of supplying my table with honey. I made a study of bees, with very little loss, and I soon had all I could care for. My business called for 24 hours a day—half day and half night. Along in the '80's I found I was over-taxing my strength, and I would have to

Italian Queens, Bees and Nuclei.



We have a strain of bees bred specially for honey-gathering and longevity, at the following prices:

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drop either the bees or my other business. I made the mistake of dropping the bees, although I put them on shares and derived some income from them, but it was not long before I had no bees.

At the time I dropped the bees I was getting about three tons of honey a year. I started with Langstroth hives, and being an admirer of Mr. Doolittle's writings, I decided to try the Gallup frame, and I was so well pleased with it that I adopted it, and I never have regretted the change. Perhaps if I had been in a warmer climate it might be different. When I became satisfied which frame I liked best, I made a part of the hives double-walled for outdoor wintering, and a part single-walled for cellar-wintering.

As soon as I got fairly started I commenced experimenting on spring management. The first warm days in March that bees could fly, and warm enough to open the hives, which is usually the first or second week of the month, I took part of them out of the cellar. I thoroughly clean the hives out and crowd the bees up so that they cover all of the combs, and see that they have sufficient feed. I use chaff division-boards, and keep them crowded so that I almost always find brood on the outside of the outside combs, and make haste slowly in spreading the combs when set out the second time.

I forgot to say that as soon as the weather turned cold again, after cleaning them out and crowding, I put them back into the cellar again, and I found by experimenting that it was best in this locality to leave them in until settled weather, avoiding dwindling.

I have taken up bees again in a small way, for it is a pleasure for me to handle them. I never could lay down any set rules to follow, but had to watch each individual colony, and try to supply their needs.

Perhaps I may some time give my experience in outdoor wintering in a cold climate.

I have always found it a benefit to treat the bees as I have stated. **L. A. PENNOYER.**

Blue Earth Co., Minn., April 2.

Taking Bees Out Early.

Last Thursday was the only day fit for the bees to fly since they were "cellared" last fall, and as I was very anxious to know how "the land lay" with them, I took 15 to the summer stands, returning them the next day, with the exception of 6 colonies, for which I managed to "rake up" enough material to blanket them well. I shall watch the results very carefully to determine whether the setting out and returning them was a benefit or damage, and report later if I can determine any difference. In general they were in splendid condition, save a few that were in bad shape when I put them into the cellar last fall.

We have barely seen the sun since the day following the taking out of the bees, such heavy fogs nearly all the time, and perfect torrents of rain, with lots of thunder and lightning. We also had hail to the depth of an inch on Tuesday, and some of it remaining in piles after all the rain which followed. I have heard of no serious damage on account of the storm. **F. W. HALL.**

Sioux Co., Iowa, March 15.

Cellar-Wintering—Basswood.

My bees have been out of the cellar about two weeks. I always take them out the first week in March, if we get a day warm enough, as I can not keep them in any longer as they get very restless, and I can not find any way to stop it. For two years I have tried A. I. Root's plan of leaving the windows and outside cellar-door open nights. Last year they wintered poorly, but this winter they have come through first-rate, and they were not in nearly as good condition when they were put into the cellar as they were the year before. They were light in both bees and honey.

Yesterday my bees were getting plenty of pollen—23 days sooner than I ever saw them get it before; to-day it is cooler, and snowing. Everything seems to indicate a good season; basswood trees did not put forth their blossoms last season, therefore we expect full bloom this season.

Mortality among the bees was not as large

Italian Queens, by Mail. Golden and Honey Queens

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BATAVIA, ILL., Aug. 21, 1901.

Dear Sir:—I thought I would let you know as to results of the nucleus sent me. They were placed in 10-frame hives and now they are in fine condition. From one I removed 24 pounds of honey and had to give 6 of them more room, as they were hanging out. They have more than reached my expectations.

Yours respectfully, **E. K. MEREDITH.**

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The golden can be handled without smoke or veil. Very truly yours,

JOHN THORNING.

Notice.—No tested stock sent out before May 15. Send money by P. O. Money Order or Express Order. **D. J. BLOCHER,**

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BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. **DRAPER PUBLISHING CO., Chicago, Ill.**



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A modern machine always beats hand work

The Hardie Whitewashing Machine

works so much faster, forces the liquid into every crack and destroys germs and insects which the brush would pass over. The complete machine, express prepaid for only \$7.50. Sold under an absolute guarantee. Full particulars on application.

The Hardie Spray Pump Mfg. Co.,
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is the short line to the East and the service equal to the best. You will save time and money by traveling over this line. It has three through daily express trains, with through vestibuled sleeping-cars, and American Club Meals, ranging in price from 35c. to \$1.00, are served in Nickel Plate dining-cars; also a la carte service. Try a trip over the Nickel Plate Road, and you will find the service equal to any between Chicago and the East.

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We are now booking orders for 3-frame Nuclei of Italian Bees, with queens, to be delivered between May 1 and May 15—first come first served. They will be shipped by express from Kankakee Co., about 50 miles south of Chicago. They are on Langstroth frames, and the number of Nuclei is limited. Prices are, f. o. b. starting point—One Nucleus, \$3.00; 5 or more at one time, \$2.75 each.

GEORGE W. YORK & CO.

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65 Best Queen of Sixty-five 65

MR. ALLEY: BELLE PLAINE, MINN.
I have a queen received from you in 1900. Her bees are the best honey-gatherers of an apiary of 65 colonies in which are queens from different breeders—natural queens, as Dr. Gallup calls them. The Adel queen is the best of the lot.

C. J. OLDENBERG.
Price-List now ready. **H. ALLEY,**
16A4t Wenham, Mass.



A Pretty Good Test!

Unroll a roll of Page Fence, and let go. See the spring in the wire roll it up again.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
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INDIANAPOLIS, IND.

49A26t



SHEEP MONEY IS GOOD MONEY if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
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unlimited quantities of **ABSOLUTELY PURE BEESWAX.** Must be nice. Best prices paid, either cash or in Supplies. Address at once,

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100 Mounted Queen-Cells and one sample of the Stanley Cell-Protector or Introducing Cage for 70 cents, postpaid.

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as expected; it seemed to take very little honey to winter them.

We have only three kinds of flowers that yield honey to any extent: Basswood takes the lead, blue thistle next, and raspberry third. We have a great many acres of buckwheat, and the bees seem to work on it quite a good deal, but the hives will get lighter all the time—very seldom that we can find enough to get a taste. As to white clover, the bees will starve to death in June with fields white with clover, in this section. About thirty years ago I lost over 30 colonies by starvation, with fields white. I don't know that I have had a taste of white clover honey in 40 years. You very seldom see a honey-bee on the blossom; if you chance to see one it will look to be about half the size of a good healthy bee, with a little bit of brown pollen on its legs. C. M. LINCOLN.
Bennington Co., Vt., March 25.

Wintered Well.

Our bees have come through the winter in very good condition, and prospects are good; but, of course, time will tell.

SANFORD HARTMAN.

Lincoln Co., Nebr., April 3.

Sort o' "Does Him Up Brown."

On page 189, there is an article that attracted my attention—"Bee-Keeping in North Ontario." I consider it a gross insult to many of our able apiarists, as Mr. Brown says if bees are properly handled foul brood and insects will not attack the colonies. How absurd, when many of the best apiarists have to fight just such things.

Mr. Brown says he has never met a man that knows how to handle bees. How sad! How lonesome Mr. Brown must be in his veritable land of milk and honey, as he terms it. I wonder where Mr. Brown got his bees, as he says no one else has anything like them.

Mr. Brown says: "As to the keeping qualities of my honey it is always as good the following June as when gathered the previous September." I wonder how long Mr. Brown has been in the bee-business, that he does not know that the quality of honey improves with age, if properly cared for. I surmise that Mr. Brown has been in the bee-business just long enough to think that all other bee-keepers are only "pebbles on the beach," while he is a towering mountain. C. H. HARLAN.

Kanabec Co., Minn., March 21.

Comments on Several Subjects.

On page 154 California says: "In lifting out a frame it tears great ugly patches in the comb." If his combs are not crooked it may be like it is here. Some of my frames have thin top-bars; the bees will sometimes build comb solid from one to the other. If the frames are spaced very closely I can hardly get one out without breaking the comb. The way I do is to take a short knife and cut the comb loose on both sides of a frame, then I have no more trouble until the next time, when I have it all to do again.

Here is a hand-shake for G. B. Williamson, page 157, about forced swarms. If it is the best way to have a good queen by letting the bees rear them at swarming-time, how are we going to get any good ones if we don't let them swarm? In fact, it would not work well here to practice the shook-swarm plan, as our best flow is too short.

I think I very nearly have some of Dr. Miller's non-swarming bees. I have one colony that I hived in 1892 that have swarmed only one year; and one hived in 1895, and one in 1896, that have not swarmed at all. They are in box-hives, too.

I read with interest all that was said in the Bee Journal last year about bees being able to hear. I think Mr. Doolittle decided the question in what he said about his bees killing a singing queen. If they can't hear how did they know she was singing?

Several have asked Dr. Miller about keeping queens a few days after receiving them through the mail. The good Doctor always says, Keep them in a warm place; but I suppose he forgets to warn them about ants. If

Standard Italian Queens

OF THE HIGHEST GRADE.

Bred in separate yards from superior stock of Golden and Leather-colored Strains. Selected from among the best stock of Long-Tongue Clover and Honey-Queens in America. Bred by us with the greatest care for business. No disease among our bees. Our elevated country, with its pure mountain air and pure sparkling spring water furnishes the ideal place of health for bees and man. See our circular for the rest.

Queens sent out last season by us arrived in the very best shape, except a few got chilled late in the season in the North. Our Queens have gone to California, Oregon, Canada, Colorado, Cuba, New Mexico, and many of the States. We rear all queens sent out by us from the egg or just-hatched larva; in full colonies. Our method is up-to-date. If you want to know what we have, and what we can do, in the way of fine, large, prolific **QUEENS**, send how quick we can send them, just give us a trial order.

Prices: Untested Queens, \$1.00; 6 for \$5.00; 12 for \$9.00.

Tested, \$2.00; Select, \$3.00; Best, \$5.00.

Full Colonies, with Tested Queen, \$6.00.

3-frame Nuclei, wired Hoffman frames, no Queen, \$2.00; 2-frame, no Queen, \$1.50. (Add price of Queen wanted to price of Nuclei.)

Special rates on Queens by the 100. Safe arrival and satisfaction guaranteed. Shipping season begins in April. Write for circular. It is FREE.

T. S. HALL,

13A4t JASPER, PICKENS CO., GA.

WANTED TO BUY BEES

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WM. C. DAVENPORT,
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Our motto in all departments is "Maximum efficiency at minimum cost."

Our scholastic training is equal to the best, our reputation first-class. All expenses for a year, aside from the clothing and traveling, less than \$200.00. Co-education, health conditions, moral and religious influence, superior.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (yellow)....	\$.90	\$1.70	\$4.00	\$7.50
Alsike Clover	1.00	1.80	4.25	8.00
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Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.

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Everything used by bee-keepers. **POUDER'S HONEY-JARS.** Prompt service. Low Freight Rates. **NEW CATALOG FREE.**

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I only want to keep one out an hour or so I get a queen and put some water in it, then put a cup in the water and lay the cage on top. Mr. Ant can walk around and look as much as he wants to. They would make short work of a queen, bees, sugar and all, here if they had a chance.

On page 201, Arkansas wants to know if the Carniolan bees will keep wax-moths out as well as Italians. I have had only one year's experience with them, but I think he will find them as good, or better, as a good queen will keep a strong colony all the time.

I have had some bee-paralysis among my bees this spring; I never saw any of it before. I have 4 colonies that have it badly; they are part Carniolan. I do not know whether this race of bees is more subject to it or not. I would be glad if some one can tell me. I am trying the sulphur cure described by Mr. Pierce, in Gleanings. I will report my success later.

This is a rather poor country for bees at best, but I fear it is going to be worse, as the saw-mills are sawing up all the poplar timber in this part of the State. I believe that bee-keepers have a harder time trying to make an honest living than any other class of people. If there is only \$1.00 for the bee-keeper and the other fellow the other one stands up and says: I am going to have 99 cents anyhow, and then we will run a foot-race for the other cent.

In some places the man who grows pears is after the bee-keeper about blight, when the truth is, I don't believe the bees have any more to do with it than they do with the planet Mars. The man who cultivates grapes says they eat the dollar out of his grapes. The alfalfa man says he will miss a whole cent if he waits a day or two to cut his hay. Now, here comes the saw-mill man in a hurry to get a cent or two out of poplar trees. The sad part of it is, the bee-keepers here think that they can kill the goose that laid the golden egg and eat her, and then have more eggs laid; but they will find out, some time.

We had a late fall, and but very few cold days all the winter. The bees began to carry in pollen and rear young brood the first part of February. We have had no really cold weather since the middle of February. March, up to this time (29th), has been real warm. I have saved all my bees so far except 6 queen-less colonies.

I have had to feed only a little, but if it turns cold now I will have to feed more. If not, I think I will have swarms by April 10. The most of my colonies are very strong with bees now. The most, if not all of the box-gum bee-keepers, have lost several colonies so far.

Although I had known Messrs. Dadant, Mason, Martin and Newman a short time even in bee-literature, it made me sad to read about their deaths. We have too few such men in the world now.

J. S. PATTON.

Hale Co., Ala., April 2.

CONVENTION NOTICES.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of James Taylor, in Harlem, Winnebago Co., Ill., on Tuesday, May 19, 1903. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

Catnip Seed Free!

We have some of the seed of that famous honey-producing plant—Catnip. It should be scattered in all waste-places for the bees. Price, postpaid, 15 cents per ounce; or 2 ounces mailed FREE to a regular subscriber for sending us one NEW subscriber to the Bee Journal for one year, with \$1.00; or for \$1.20 we will send the Bee Journal one year and 2 ounces of Catnip seed to any one.

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Special low price on queens in lots of 25 to 100. All queens are mailed promptly, as we keep 300 to 500 on hand ready to mail.

We guarantee safe delivery to any State, Continental Island, or European Country. Our Circular will interest you; it's free.

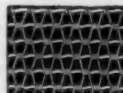
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Business Queens.

Bred from best Italian honey-gathering stock, and reared in FULL COLONIES by best known methods. Guaranteed to be good Queens and free from disease. Untested, 75c each; 6, \$4.00. Tested, \$1.25 each. Untested ready July 1st. Tested about July 15th. Address,

CHAS. B. ALLEN,
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Split Hickory Buggies.—The opportunity to buy the celebrated Split Hickory Buggies direct from the factory is open to our readers. The season is here for using pleasure vehicles, and the longer their purchase is postponed the less opportunity one has for getting the full benefit of the season's enjoyment out of them.

The Split Hickory line of vehicles is sold only direct to the user at the wholesale price, not being on sale at any store, nor is it handled by any jobber or dealer.

The Ohio Carriage Mfg. Co., Sta. 6, of Cincinnati, Ohio, sole makers of Split Hickory vehicles, is a highly reputable firm with a record of years of honesty and success as makers and sellers of high-class vehicles at moderate prices. Their offer to sell their jobs on 30 days' free trial is bona fide and certainly very liberal. It enables the intending purchaser to see and try just what he intends to buy. A postal card or letter addressed to them at Cincinnati will secure their valuable new catalog, containing all the latest things on four wheels, for people who like stylish, long-wearing and well-built buggies and vehicles. Send for it before you forget it.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 18.—Little change from last quotation, sales are few and prices not firm. No. 1 to fancy white, 15¢@16¢; other grades range from 10¢@14¢. Extracted, white, 6¢@7¢; amber, 5¢@6¢. Beeswax selling on arrival at 32¢.

R. A. BURNETT & Co.

ALBANY, N. Y., Mar. 14.—Honey demand quiet; receipts and stock light. Comb selling, light, 15¢; mixed, 14¢@15¢; dark, 13¢@14¢. Extracted, dark, at 7¢@7½¢. Beeswax firm, 30¢@32¢.

H. R. WRIGHT.

KANSAS CITY, April 20.—The supply of comb honey is about exhausted. The demand good. We quote you as follows: Fancy white comb, 24 sections, per case, \$3.50; No. 1 white comb, 24 sections, \$3.40; No. 2, white and amber, per case, \$3.00@3.25. Extracted, white, per pound, 6¢@6½¢; amber, 5¢. Beeswax, 25¢@30¢.

C. C. CLEMONS & Co.

CINCINNATI, March 11.—The demand for extracted honey is good at the following prices: Amber, barrels, 5¢@6½¢; according to quality; white clover, 8¢@9¢. Fancy comb honey, 15¢@16½¢. Beeswax strong at 30¢.

THE FRED W. MUTH CO.

NEW YORK, April 8.—Comb honey is moving rather slowly of late and prices are somewhat declining. We quote fancy white at from 14¢@15¢; No. 1, white, 13¢; amber, 11¢@12¢. Extracted quiet and easy, with plenty of supply. We quote white at 6¢@7¢; light amber, 5¢@6¢; dark at 5¢. Beeswax steady at 30¢@31¢.

HILDEBRATH & SEIGLER.

CINCINNATI, Apr. 18.—The comb honey market is a little better, as the big stock is almost exhausted; prices are better—fancy water-white brings 15¢@16¢. The market for extracted has not changed whatever, and prices are as follows: Amber in barrels, 5¢@5½¢; in cans, 6¢@6½¢; white clover, 8¢@8½¢. Beeswax, 25¢@30¢.

C. H. W. WEBER.

SAN FRANCISCO, Mar. 11.—White comb honey, 12¢@13¢; amber, 9¢@11¢; dark, 7¢@7½¢. Extracted, white, 6¢@7½¢; light amber, 5¢@6¢; amber, 5¢@5½¢; dark, 4¢@4½¢. Beeswax, good to choice, light, 27¢@29¢; dark, 25¢@26¢.

Demand is fair on local account for water-white, uncandied, but there is not much of this sort obtainable. Market for same is firm at ruling rates. Candied stock and common qualities are going at somewhat irregular and rather easy figures, holders as a rule being desirous of effecting an early clean-up.

WANTED WHITE CLOVER EXTRACTED HONEY! Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

THE FRED W. MUTH CO.,
32A1f Front and Walnut, CINCINNATI, OHIO.
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are no better than those we make, and the chances are that they are not so good. If you buy of us **you will not be disappointed.** We are undersold by no one. Send for new catalog and price-list and free copy of THE AMERICAN BEE-KEEPER; in its thirteenth year; 50 cents a year; especially for beginners.

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W. T. Falconer Mfg. Co.,
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A Few Cheap Smokers!

We find we have on hand a few slightly damaged Clark and Bingham Bee-Smokers, which got a little damp and soiled at the time of the fire in the building where we were about 2 years ago. They are all almost as good as new.

We have some of the Clark Cold Blast, which when new sell now at 55 cents each; some of the Large Bingham—new at 65 cents each; and some of the Little Wonder Bingham—new at 50 cents. But to close out those we have left that are slightly damaged, we will fill orders as long as they last at these prices:

Clark at 25 cents each; Little Wonder Bingham at 30 cents each; and Large Bingham at 40 cents each.

We do not mail any of these slightly damaged Smokers, but will put them in with other goods when ordered, or sell them here at our office when called for—at the above prices.

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Up First Flight.

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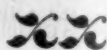
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Why does it sell so well? Because it has always given better satisfaction than any other. Because in 25 years there have not been any complaints, but thousands of compliments.

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Red Clover Untested Italian Queens.....	Each, \$1.00	Six, \$ 5.70
" Tested " " " " " " " " " "	2.00	" 11.40
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Italian Breeding Queens at.....	\$5.00, \$7.50 and \$10.00 each	
Best Imported Italian Queens	\$5.00	

If you are in a hurry send us your order.

If you want good queens send us your order.

We do not handle cheap queens.

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Gleanings in Bee-Culture one year and an Untested Italian Queen for only \$1.00. We have already mailed some premium queens and expect to send them out within a week after orders are received. Don't delay if you want a queen early when she will do you the best service.

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